



## M.O.E. Policy Manual

POLICY TITLE OPERATION OF THE AIR POLLUTION INDEX (API) AND THE AIR QUALITY INDEX (AQI)	NO 01-04-01
<u>Legislative Authority</u>  Environmental Protection Act Regulation 308	
<u>Statement of Principles</u>  This policy describes:  (A) the Air Pollution Index (API); and (B) the Air Quality Index (AQI)  operated by the Ministry of the Environment to measure and control air pollution for the protection of human health and the environment. It explains how the two systems differ in terms of the purpose for which each index is designed, the pollutants on which each index is based, the means by which the public is informed of air quality, and the actions to be taken when air pollution exceeds specified levels.	
<u>Point of Contact</u> Director, Air Resources Branch	
<u>Effective Date</u>  June 30, 1988	

DefinitionAdverse Meteorological  
Conditions

A term used in this policy to describe those occasions when wind speed or wind direction or turbulence (wind fluctuations) or temperature variations, alone or in combination, prevent the efficient dispersal of pollutants into the atmosphere.

## Air Pollution Episode

An occasion when air contamination is at such a level and for such a period of time that the air contamination may become the cause of increased human sickness and mortality.

1. Purpose1A. API

The API is designed for use as the basis of an Air Pollution Alert System to protect human health.

It provides the regulatory basis for the control of stationary sources of air pollution to curb or prevent air pollution episodes caused by sulphur dioxide and suspended particulate matter.

1B. AQI

The AQI is designed as a means of informing communities on the current air quality in those areas where monitoring stations are located.

Several of the pollutants monitored as the basis of the AQI emanate primarily from automobiles, domestic fuel consumption or long range transport, none of which can be subject to immediate control. In general, therefore, the AQI cannot be used as a tool for the immediate prevention of air pollution.

The AQI system may, however, be used by the Ministry under certain circumstances to advise owners of stationary sources of potential air quality problems when these sources are major contributors to the problem. (See 3B).

2. Pollutants Monitored2A. API

The API is based on the 24-hour running averages of the concentrations of:

- . Sulphur dioxide;
- . Suspended particulate matter.

2B. AQI

A mathematical equation determines each sub-index as a function of the pollutant concentration. The AQI is the highest of the sub-indexes based on one of the following:

- . One hour average concentration or value for
  - sulphur dioxide
  - suspended particulate matter
  - nitrogen dioxide
  - ozone
  - carbon monoxide
  - total reduced sulphur compounds.
- . Eight hour average concentration of
  - carbon monoxide.
- . The Air Pollution Index.

3. Index Readings,  
Interpretation and  
Control Action3A. API

<u>Reading</u>	<u>Interpretation</u>	<u>Control Action</u>
Below 32	Acceptable Level	-
32 plus; adverse meteorological conditions expected for at least six hours	Advisory Level	Significant sources may be advised by the Ministry to prepare for curtail- ment of operations
50 plus; adverse meteorological conditions forecast for further six hours	First Alert	Significant sources may be ordered by the Ministry to curtail operations

<u>Reading</u>	<u>Interpretation</u>	<u>Control Action</u>
75 plus; adverse meteorological conditions forecast for further six hours	Second Alert	Further curtailment of pollution sources may be ordered by the Ministry
100 plus	Air Pollution Episode Threshold Level	All pollution sources not essential to public health or safety are ordered by the Ministry to close down

3B. AQI

0 - 15	Very good	-
16 - 31	Good	-
32 - 49	Moderate	-
50 - 99	Poor	-
100 plus	Very poor	-

On those occasions when the AQI is 32 or higher, and meteorological forecasts indicate that the Index will remain elevated for a prolonged period due to emissions from certain stationary sources, the owners of those sources may be requested by the Ministry to take action to alleviate the problem.

Such requests will be made on the basis that the pollutant which is causing the Index to reach 32 or higher is being emitted at concentrations which exceed the Ontario standard or criterion for that pollutant.

4. Method and Frequency of Reports to Public4A. API

The API will be reported to the public when it is the basis of the AQI, at which time it will be reported as such.

4B. AQI

Index readings will be reported to appropriate media four times a day.

Whenever the AQI is reported to be 32 or higher, subsequent reports will be released every hour together with information respecting the probable duration of the 32-or-higher level and the pollutant(s) on which the AQI is based.